

ABSTRACT

The present invention provides genomic loci which are hypermethylated and differentially expressed in drug resistant cells compared to non-drug resistant cells. These genomic loci are homologous to the rab6 locus but map to a different chromosomal position.

5 The present invention also provides nucleic acids isolated from these genomic loci by Methyl-Differential Display (MDD) methods, including genomic DNAs and cDNAs. The present nucleic acids are useful as probes for detecting mutations and the methylation patterns of the newly identified genomic loci, and of homologous nucleic acids. Nucleic acids of the present invention are also useful for detecting expression of mRNA from herein identified genes, for

10 measuring expression of those and homologous genes sequences, and for determining suitability of therapeutic treatment. The disclosed nucleic acids and their homologs are useful for inhibition of multiple drug resistance. Cells are disclosed which are useful for identification or modulators of multidrug resistance.